

U.S. ENVIRONMENTAL PROTECTION AGENCY  
SCRDI BLUFF ROAD SUPERFUND SITE  
PUBLIC MEETING SUMMARY

Hopkins Park Community Center  
April 10, 1990

On Tuesday, April 10, 1990, the Region IV Office of the U.S. Environmental Protection Agency (EPA) held a public meeting to discuss the Proposed Remedial Action Plan for the South Carolina Recycling and Disposal, Inc. (SCRDI) Bluff Road Superfund site and to receive public comments on the Proposed Plan.

Approximately 65 people attended the meeting, which began at 7:30 p.m. at the Hopkins Park Community Center in Columbia, South Carolina. Those who attended the meeting included area residents, State and local officials, news media representatives, and representatives from EPA.

Section I of this document summarizes the major points of discussion in the meeting. Section II paraphrases questions raised and the responses given by EPA representatives or other specialists who were present.

**I. Presentation Summary**

**A. Welcome and Introductions**

Ms. Michelle Glenn, the EPA Remedial Project Manager for the SCRDI Bluff Road site, welcomed participants and thanked them for attending. She stressed the importance of community involvement in EPA's decision regarding the site. Ms. Glenn introduced State Representative James Faber as a special guest. She then introduced other Agency staff who were present including: Beverly Mosely, the Community Relations Coordinator for the site; Deborah Espy, from the Office of Regional Counsel; Rich Muza, a ground water specialist for EPA; and Becky Fox, a toxicologist for the Agency. Ms. Glenn also introduced Victor Hiatt and Jim Ashworth from Resource Applications, Inc., EPA's third party oversight contractor; Mike Miller and Bennie Underwood of de maximus, inc., the contractor for the potentially responsible parties (PRPs); and Lynn Wright, an attorney representing the PRPs.

Ms. Glenn reviewed the agenda for the meeting by stating that she would begin by giving a brief overview of the Superfund process and the site status. Jim Ashworth would then present the site background and summarize the results of the remedial investigation. Next, Victor Hiatt would discuss the feasibility study results. Following Mr. Hiatt, Ms. Glenn would present EPA's recommended alternatives. Beverly Mosely would then talk about the community's role in the



process before Ms. Glenn would open up the meeting for questions and answers.

#### B. Superfund Overview

Ms. Glenn briefly described the key steps in the Superfund process, which was established by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980. These include:

- Site Discovery
- National Priorities List (NPL) approval
- Remedial Investigation (RI)
- Feasibility Study (FS)
- Record of Decision (ROD)
- Remedial Design (RD)
- Remedial Action (RA)

After explaining the various steps in the process and how they relate to the Bluff Road site, Ms. Glenn introduced Mr. Ashworth who spoke about the site history.

#### C. Site History and Remedial Investigation Results

Mr. Ashworth began by stating that the site is located in Richland County, approximately 10 miles south of the city of Columbia. The site was originally used as an acetylene gas manufacturing facility and subsequently was used to store, recycle, and dispose of chemical wastes. In 1980 when EPA conducted a site inspection, more than 7000 drums were present at the site, many of which were leaking. The site was added to the NPL in October 1981. More than 7500 drums containing chemicals were removed from the site between 1982 and 1983, as were visibly contaminated soils and above-ground structures. The State began an RI/FS in 1984 to determine the type, extent, and degree of soil and ground water contamination at the site. This was never completed due to lack of funds. In April 1988, EPA and some of the PRPs entered into a legal agreement called an Administrative Order by Consent to conduct an RI/FS at the site. The RI/FS began in August 1988. The RI was completed in February 1990 and the FS was completed in March 1990.

Mr. Ashworth then summarized the results of the RI. The results indicated that the site soils are contaminated in an area bordered by Bluff Road to the west, the drum staging area to the north, Campbell's property line to the south, and the lagoon areas to the east. Principal contaminants include volatile and extractable compounds, similar to gasoline, paint thinner, and other solvents.

The ground water analytical results indicate that a contaminant plume or area of contamination is present in the

shallow aquifer. This plume apparently has not moved from its 1985 position. No contamination was found in the deep aquifer.

Sediments from both lagoons on the Bluff Road site are contaminated with a variety of organic chemicals and metals. A risk assessment was conducted as part of the RI to evaluate the impact of the chemicals on the public health and the environment. Mr. Ashworth concluded by stating that the results show that the estimated risk to the public health or the environment is negligible at the present time. To prevent future potential risks, however, the site soils and ground water must be cleaned to specified cleanup levels.

Mr. Ashworth then introduced Victor Hiatt of Resource Applications, Inc., to discuss the results of the FS.

#### D. Feasibility Study Results

Mr. Hiatt began by explaining that as part of the FS process, remedial or cleanup alternatives are developed and screened for their applicability. As the analyses become more detailed, the field of alternatives is narrowed. For the Bluff Road site, the field was narrowed to nine alternatives that meet or exceed all of the Federal and State applicable or relevant and appropriate requirements (ARARs) with regard to protecting human health and the environment.

Mr. Hiatt briefly described each of the nine alternatives and stressed that the public has a voice in determining which alternative would be selected.

**Alternative 1: No Action.** The Superfund program requires a "no action" alternative be considered at every site as a basis for comparison for all other alternatives. Under the no action alternative, no treatment actions would take place. Controls such as fencing and warning signs would be used and the site would be monitored continuously, as it is now. This alternative is estimated to cost \$40,000 per year for 30 years. The no action alternative has been determined to be unacceptable at this site because the ground water contamination presents potential human health risks.

**Alternative 2: Carbon Adsorption.** This and the next alternative address ground water contamination. Carbon adsorption is a proven technique that is commonly used to remove organic materials from both air and water using highly adsorbent granular-activated carbon. This alternative is estimated to cost approximately \$16 million over 16 years of treatment.

**Alternative 3: Air Stripping.** For this alternative, ground water would be pumped out of the aquifer. Air would be injected into the water in order to break up contaminants. Ground water would then be subjected to granular-activated carbon (as described in Alternative 2) as a polishing or finishing step. Mr. Hiatt stressed that for both Alternatives 2 and 3 emissions from the processes would be collected and treated before being released into the atmosphere. The air stripping alternative is estimated to cost approximately \$4 million over a 16-year treatment period.

**Alternative 4: Ground Water Effluent Discharge.** After the ground water is treated, there must be a method for releasing it. Five different options for discharging the ground water were examined under this alternative. The first was sub-surface injection, in which the treated ground water is returned back into the ground. This is a technically feasible solution. The second alternative was discharge to the Columbia, South Carolina Publicly-Owned Treatment Works. This is a technically feasible solution; however it would involve obtaining many permits before it could be approved. The third option considered was discharge into Meyers Creek. This was determined to be technically feasible but was not implementable because discharge of this quantity of water would double the flow of Meyers Creek and result in a continuous flooding condition. The next alternative considered was discharge into the Congaree River. This is also technically feasible but would require miles of pipe and years of maintenance. This alternative would be difficult to implement and is less desirable than the other alternatives in this category. Spray irrigation is the final method under consideration. Under this system, the treated ground water would be returned to the surface via an irrigation system. The system could be designed to recharge the water system and offset the impacts of ground water withdrawal.

**Alternative 5: In-Situ Soil Venting.** The next five alternatives address contaminated soil. In-situ means the soil would be left in the ground for treatment. In the soil venting process, perforated tubes are placed into the ground and a vacuum system is attached to them. Air is sucked up through the tubes, essentially stripping the volatile organics in place. The cost of the soil venting alternative is estimated to be approximately \$1 million.

Before discussing the next two alternatives, incineration and thermal desorption, Mr. Hiatt briefly reviewed the differences between them. Incineration

typically occurs at 1500 to 1800 degrees Fahrenheit and is a chemical reaction, which means that compounds subjected to flame or high temperatures do not retain their chemical identity. Thermal desorption, on the other hand, typically occurs at a temperature of around 600 degrees and is a physical reaction -- the chemical retains its identity. Mr. Hiatt gave an example of gasoline being incinerated in a car engine. The exhaust gases are carbon dioxide, carbon monoxide, oxides, and nitrogen. The products are no longer identifiable as gasoline. Under thermal desorption, if gasoline was heated to 600 degrees, it would emit hot gasoline vapor, but would still be gasoline.

**Alternative 6: Incineration.** This alternative consists of excavating and treating contaminated soils using high temperature incineration at 1200 to 1500 degrees, causing the destruction of the volatile organic compounds. The incinerated soil would be processed on the site in a mill to add water. No air emissions would be released before being tested and meeting applicable standards. The estimated cost for this alternative is approximately \$28 million.

**Alternative 7: Thermal Desorption.** This alternative consists of excavating site soils and treating them on-site using low temperature desorption. The system would consist of a rotating kiln in which soil is constantly agitated and thrown into the air inside a rotating cylinder so that there is good mixing and complete evaporation of the organics from the soil. The treated soil would go through an on-site mill to re-add water. The estimated cost of this alternative is \$18 million.

**Alternative 8: Soil Excavation and Off-Site Disposal.** This alternative consists of excavating contaminated soils and transporting them to an off-site, permitted hazardous waste landfill. This may be an unacceptable alternative because of Resource Conservation and Recovery Act (RCRA) land ban disposal requirements. The issue of acceptability will have to be resolved. The estimated cost of this alternative is approximately \$20 million.

**Alternative 9: Soil Excavation and Off-Site Thermal Treatment.** Mr. Hiatt pointed out an error regarding this alternative in the Proposed Plan fact sheet. The fact sheet lists this alternative as Soil Excavation and Off-site Thermal Desorption, but it should be Off-site Thermal Treatment. This alternative consists of excavating the contaminated site soils and transporting them to an off-site incinerator for

treatment and disposal. The estimated cost of this alternative is approximately \$100 million.

Mr. Hiatt then turned the meeting over to Michelle Glenn to present EPA's preferred remedy.

E. EPA's Proposed Plan

Ms. Glenn stated that to clean up the ground water, the Agency is recommending the air stripping alternative. This would include extracting contaminated ground water, building a treatment system onsite, and pre-treating the water to remove any metals that might interfere with the air stripper. Air stripping would be the principal element of the cleanup alternative. After air stripping, a carbon adsorption unit would be used to remove any remaining organics. EPA is recommending that the treated ground water be discharged back into the ground through sub-surface injection. To clean up the soil, the Agency is recommending the thermal desorption alternative. This consists of excavating the contaminated soil and lagoon sediments, using the thermal desorption method onsite, and then backfilling and revegetating the excavated area. Both treatment alternatives would be monitored continuously to ensure that no air emissions requirements are exceeded.

Ms. Glenn explained how the Agency arrives at these alternatives. Section 121 of CERCLA or the Superfund law, requires that a remedy meet certain selection criteria. A remedy must: be protective of human health and the environment; attain ARARs; utilize permanent solutions and alternative treatment technologies to the maximum extent practicable; address whether the preference for treatment that reduces toxicity, mobility, or volume is met; and be cost effective. Ms. Glenn went on to state that the proposed alternative meets all of these requirements.

Ms. Glenn pointed out that the cost estimates given for soil are based on a range of 20,000 to 45,000 cubic yards of soil to be treated. In reality, sampling will occur as soil is excavated so all contaminated soil will be treated.

Ms. Glenn then introduced Beverly Mosely to explain the community's role in the Superfund process.

F. Community Relations

Ms. Mosely thanked participants for their patience in listening to a highly technical presentation. She stressed the importance of the public commenting on the alternatives presented. The 30-day public comment period began at this meeting and continues until May 10. Before a final remedy is selected, EPA will consider all comments made by the public.



Ms. Mosely informed participants that when a final decision is made it will be documented in the ROD. At that time a public notice will appear in the newspaper and also will be sent to the information repository. Ms. Mosely stressed the importance of asking questions during the question and answer session and then turned the meeting over to Ms. Glenn.

## II. Question and Answer Period

Following the presentations, Ms. Glenn opened the floor for questions or comments. This section summarizes those questions and responses according to several categories of interest.

### A. Ground Water Issues

Q. - Is the ground water contaminated?

A. - Ms. Glenn: Ground water at the site is contaminated.

Q. - How far has the contamination spread?

A. - Rich Muza, Ground Water Specialist for EPA: The contaminated zone has moved about 1400 feet and about 1000 to 1500 feet in width. Extraction wells will be installed during the corrective action at the front edge of the plume to stop movement downstream.

Q. - How often will you sample to see how far the plume is moving?

A. - Ms. Glenn: There is no set schedule at this time. EPA will be sampling the week of April 16th. Right now there is no threat to drinking water wells in the area and it would be quite some time before contamination would cause a threat. If, after sampling the week of April 16th, EPA found any evidence that the plume had spread to residential wells, we would tell you.

Q. - Why haven't the wells of the nearest residents been sampled?

A. - Ms. Glenn: The wells have not been tested because we have not detected contamination in the wells we installed at the edge of the site. Because we have not detected contamination in those wells, we have no reason to believe that the contamination is passing those wells and reaching private wells.

Q. - I think the nearest wells to the site should be sampled.

A. - Mr. Muza: Basically at the site there is an array of wells. Those that are the farthest

downgradient from the site show non-detections or very low levels of contamination. The way we study a ground water situation is to find the source areas, determine which way the ground water is flowing, and see how far it has moved. At the present time, the contamination at this site has not moved extensively. As Michelle said, there will be continuous sampling until the extraction system is in place.

Q. - What would it take for the people who are close to the site to have their well water tested just to make sure?

A. - Ms. Glenn: We can work with you on that and work with the State as well. We are not just going to brush off your concerns. We'll sit down and talk about it with you.

B. Cleanup Technology

Q. - Have treatment processes similar to the one proposed for this site been implemented anywhere else?

A. - Ms. Glenn: Air stripping has been used in many places. In North Carolina, just north of the South Carolina border, they are using air stripping as a principal treatment for contaminated ground water at the Celanese Fibers Operation site. The thermal desorption technique is newer. It has been used successfully at a site in an EPA Region in the Northeast and it is going to be implemented at a site called Wamchem on the South Carolina coast.

Q. - We would like to know how this remedy is going to affect the long-term growth of this area.

A. - Ms. Glenn: By taking care of the source, we will shorten the amount of time it will take to clean up the ground water. By installing ground water extraction wells we will stop the flow from moving any further. So the first thing the ground water treatment will do is contain the plume. There won't be a threat of it migrating further. We will also treat the ground water to clean up all the contamination. I want to make it clear that what we are proposing is something that will take care of the problem at the site.

Q. - What percentage of the contaminants will be removed?

A. - Ms. Glenn: I can't give you a percentage. The cleanup goals are in the FS and there are actual numbers associated with them. We will clean up ground water to what we call "maximum



contaminant levels" that are in the Safe Drinking Water Act, the maximum safe concentration for certain compounds.

**Q.** - Can you translate that into something that we can understand?

**A.** - Becky Fox, EPA Toxicologist: Based on the daily consumption of ground water for a lifetime of exposure, at the level that we clean it up to, there would be one increase in cancer cases per million people.

**Q.** - So even after this process is completed there will be some residue remaining in the soil and possibly the immediate aquifers?

**A.** - Ms. Fox: Usually those numbers are around background levels, so it's as clean as we can get it and not be able to detect any chemical in the water.

**Q.** - If the cleanup process will take 16 years, how many people will have cancer in 16 years?

**A.** - Ms. Glenn: Nobody is going to be exposed because nobody is pumping and using that contaminated water. Right now there's no risk to anyone in this room because we are not drinking the water in that aquifer.

**Q.** - What oversight does EPA offer after an alternative is selected?

**A.** - Ms. Glenn: If the Agency does the cleanup, we will give it to one of our contractors. We oversee the work and also have the U.S. Army Corps of Engineers work with us to oversee portions of the work. If responsible parties perform the work, then EPA manages the project, oversees the whole thing, and pays a third party oversight contractor to oversee the work.

**Q.** - After the cleanup is over, will EPA monitor the site?

**A.** - Ms. Glenn: Yes. There will be an operation and maintenance plan developed and it will include a monitoring program. Many years down the road we'll reach a point when the aquifer is clean and then we would monitor three or four times a year until we determine that the site was no longer a threat and no further monitoring was necessary.

**Q.** - After the cleanup, will there be limitations set on the use of the land?

**A.** - Ms. Glenn: We prefer not to have deed restrictions placed on the land. I can't tell you

at this time, however, whether any restrictions would be necessary. We expect to cleanup the site to the point where it is no longer a threat to anyone.

C. Site Activities and Background

Q. - When did the activities at the site end?

A. - Ms. Glenn: Activity at the site ended in 1981 or 1982. In 1982 all of the barrels and a lot of the contaminated soil on the surface were removed in a removal action.

Q. - Approximately one year ago, I saw barrels on the site. It looked as though they were being buried. The next day, when I passed the site, they were gone. I'd like to know what happened to those barrels and what they were doing there.

A. - Mike Miller, de maximus inc., contractor to the responsible parties: When we sample the wells on the site, we have to purge a certain amount of water out of the well before we can take the sample. Because we do not know at that point whether the water is contaminated, we collect all of the water in drums. There were between 50 and 100 drums on the site. The water in the drums was then placed into a big square tank before it was sent to off-site treatment. The empty drums were picked up and taken for recycling. There were no drums or anything else buried on the site.

Q. - Are there any drums left on the site?

A. - Ms. Glenn: There are no more drums on the site. They were removed in 1982 and the above-ground tank was removed as part of the remedial investigation.

Q. - Where did these chemicals come from?

A. - Ms. Glenn: The chemicals came from an operation that was being run by a company called South Carolina Recycling and Disposal. They took other people's hazardous waste and stockpiled it on the site while they figured out what to do with it.

Q. - Aren't there some type of requirements for storing those chemicals?

A. - Ms. Glenn: There are now. When SCRDI operated, they did so in a sloppy manner.

Q. - What is the site ranked in the country and in South Carolina?

A. - Ms. Glenn: It is ranked 83rd in the country and number one in South Carolina.

Q. - So it must be pretty bad.

A. - Ms. Glenn: The ranking procedure is based on potential threat. Having the site ranked means that it is eligible for Federal funding and that it will be cleaned up.

D. Cleanup Costs

Q. - What does EPA do if the cost of the cleanup exceeds estimations?

A. - Ms. Glenn: Before cleanup begins, EPA will sit down with the responsible parties and, hopefully, they will agree to do the work. Any cost overrun would be their's to pay. If EPA does the work, the Agency would try to maintain costs. If the costs do exceed estimations, EPA will still pay for the cleanup.

Q. - Is there money set aside?

A. - Ms. Glenn: The money comes out of Superfund if the Agency conducts the cleanup.

Q. - The people who are responsible for the site have agreed that they will pay for 52 percent of the cleanup and EPA will pay for the rest. Is that right?

A. - Ms. Glenn: No sir. A group of responsible parties came forward and agreed to do 52 percent of the work. There are other responsible parties at the site. There is a group of Federal facilities who are going to enter into an agreement with EPA to pay their percentage share of the costs. There is a group of responsible parties that was sued by the Agency in 1982 and have not participated in any of the activities at the site since then and EPA will ask them to contribute to the total costs. We hope that this project will be totally funded by responsible parties and that EPA will not have to spend Superfund money. If that does not happen, the responsible parties will pay for part of it and EPA will pay for the rest.

E. Miscellaneous

Q. - There is a misstatement in the fact sheet. The fact sheet states that "most nearby residents are supplied with municipal water." Nobody in Hopkins has municipal water. We all have water from wells.

A. - Ms. Glenn: We will make a correction to the fact sheet that states that residents of Hopkins use well water.

**Q.** - I want to know will the community have any say in the selection of the process that will be used in cleaning up the site?

**A.** - Beverly Mosely, EPA Community Relations Coordinator: Yes, starting tonight you have 30 days to comment. Our address and numbers are on the back of the fact sheet you received. The site-related documents are available in the information repository if you would like to review them.

**Q.** - Will the public comment period be based on individual comments, Community Council comments, or County Council comments?

**A.** - Ms. Glenn: We take all comments into account. Every concern is counted because this is the main period of time in the Superfund process when the public has equal strength with any of the governments involved or any other voice.

**Q.** - Is it safe for people to fish in Meyers Creek?

**A.** - Ms. Glenn: Yes. We sampled Meyers Creek and didn't find any contamination there.

**Q.** - The Council has conducted additional tests on Meyers Creek and found that there is a source of release for sewage into that creek. There's also a secondary release source for other organics. So I don't think it's wise to say that it is safe.

**A.** - Ms Glenn: Based on what we learned at Bluff Road, it's safe. The best way to handle any other problems is through the South Carolina Department of Health and Environmental Control.

The meeting was adjourned at approximately 9:30 p.m.